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ABSTRACT

A quasi-experimental design was used to assess the effects of pre-parenthood education classes on high school students. Participants were 130 students from 8 high schools in Michigan; 26 students not enrolled in the parenting course served as a control group. In both groups, students' knowledge of child development, and beliefs about appropriate child rearing practices and the extent to which parents influence the development of their children, were assessed at the beginning of the semester and when coursework was completed. Analysis of covariance revealed significant differences that favored students in the parenting course. These students were more knowledgeable about child development than were control students. Students in the program were less likely to believe that infants are spoiled by responsive and affectionate care, and more likely to emphasize the importance of talking and reading to children. Students in the program were also more likely to believe that infants should be given considerable leeway in exploring the home environment, and less likely to be authoritarian in their views on discipline. Finally, students in the parenting classes were more likely to believe that parents exert considerable influence on the developing child. It is concluded that these differences can be regarded as positive outcomes. (RH)

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The Effects of Pre-parenthood Education on High School Students

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Abstract

A quasi-experimental design was used in this study to assess the effects of pre-parenthood education classes on high school students. One hundred and thirty students from 8 high schools in Michigan were in the program group; 26 students not enrolled in the parenting course served as the control group. In both groups, students' knowledge of child development, their beliefs about appropriate child-rearing practices and their beliefs about the extent to which parents influence the development of their children were assessed at the beginning of the semester and again when the coursework was completed. ANCOVA was used to make comparisons between the groups on each of the outcomes at the end of the term; pretest scores were used as covariates in these analyses. Significant differences favoring the students in the parenting classes were found. Students in the program were more knowledgeable about child development than control students. They were less likely to believe that infants are "spoiled" by responsive and affectionate care, and more likely to emphasize the importance of talking and reading to children. Students in the program were more likely to believe that infants should be given considerable leeway in exploring the home environment, and less likely to be authoritarian in their views on discipline. Finally, students in the parenting classes were more likely than control students to believe that parents exert considerable influence on the developing child. On the basis of earlier research with parents, these differences can be regarded as positive outcomes.

The Effect of Pre-parenthood Education on High School Students

Parent education programs have a long history in this country and interest in these programs has increased in the past 2 decades as professionals have explored ways of enhancing the experiences of young children through intervention programs and family support services. Evaluations of parent education programs have shown that well designed programs can have positive effects on parents and children (Andrews et al., 1982; Bronfenbrenner, 1975; Goodson & Hess, 1978; Harman & Brim, 1980; Heinicke, Beckwith & Thompson, 1988). However, one of the limitations of most parent education programs is that they reach only a small number of parents. A second limitation is that many parent education programs target or attract only select groups of parents (e.g, "high risk" parents or middle-class parents) rather than serving a broad range of parents or parents-to-be.

Some advocates for children have argued that most young adults could benefit from some preparation for parenthood and have suggested that pre-parenthood education should be part of the curriculum in secondary schools. Although such a proposal sounds promising, empirical evidence regarding the value of such programs is lacking. The present study assesses the effects of a pre-parenthood education program implemented in several high schools in Michigan.

The Parenthood/Child Development Curriculum used in Michigan was developed in 1983 as part of a series of courses called "Skills for Managing Life" and was revised in 1985. The curriculum emphasizes the application of child development knowledge in parenting in order to promote the healthy

growth and development of children. Increasing the students' knowledge of child development and their understanding of how to provide a supportive environment for children are central goals of the program. Influences on the physical, social, emotional and cognitive development of children are discussed, and information on interacting effectively with young children is conveyed. In addition, the program attempts to increase the students' awareness of the resources and level of commitment needed to function effectively in the parenting role so that informed decisions can be made regarding the timing of parenthood. Students are also given information on choosing child care services, community resources available to parents, and the importance of health care practices such as early utilization of prenatal care and post-natal immunizations.

The curriculum is divided into 6 units (e.g., care for the emotional and social needs of children) and for each unit teachers are provided with teacher presentation suggestions, student activity suggestions, a list of resources (e.g., readings, films), and activity handouts and worksheets. The lists of teacher and student activities are extensive and allow for diverse ways of conveying important material. Throughout the curriculum there is an emphasis on "reality based" experience, such as interacting with children, choosing age appropriate toys at a store, or observing patterns of parent-child interaction in naturalistic settings. Additional money was allocated to schools by the State for the laboratory component of the program to insure that teaching was not confined to didactic methods. Teachers utilizing the curriculum attended a dissemination workshop where the curriculum was reviewed and discussed.

A quasi-experimental design was used to assess the effects of the

program on the students. Students in the parenting courses and students in a control group were given a battery of questionnaires at the beginning of the semester and again at the end of the semester. The three outcomes of interest, assessed with the questionnaires, were: 1) the students' knowledge of child development, 2) the students' beliefs regarding effective and appropriate child-rearing practices, and 3) the students' beliefs about the extent to which parents can influence the development of their children. Given the central goals of the program, the program could be considered successful if: 1) students in the parenting courses were more knowledgeable about child development upon completion of the program, 2) the program influenced these students' beliefs about how to provide a supportive environment for children, and 3) the program led to greater awareness that parents exert considerable influence on the developing child.

Method

Sample

One hundred and thirty students from eight Michigan high schools who were enrolled in parenting courses comprised the program group. It was not feasible to sample classrooms at random so the extent to which these students are representative of students in Michigan who are enrolled in such courses is not known. However, efforts were made to involve schools that were diverse in terms of size and location.

Twenty-six students who had not taken a parenting course were in the control group. The students in the control group were all enrolled in the same high school English class. Participation in the evaluation required a substantial amount of class time (two periods at the beginning of the semester and two periods at the end) and therefore ethical considerations

precluded involving a large number of students in the control group.

Demographic characteristics for the two groups of students are presented in Table 1. There was not a statistically significant difference between the two groups of students in terms of mothers' level of education or fathers' level of education. The mean age in the control group (16.9 years) was higher than the mean age in the program group (16.4 years). The range of ages in the program group was 14-19, and the range in the control group was 15-19.

Eighty-seven percent of the program students and 66% of the control students were female. Two-thirds of the students in the program group were white, 15% were black, and remaining students represented a number of other ethnic groups. Seventy-two percent of the control group students were white, with the remaining students representing a number of ethnic groups. Ten of the students in the program were parents. In contrast, none of the students in the control group had children.

The final comparison made between the two groups was in terms of past performance in school. There was no difference between the two groups in terms of self-reported grade point average.

Table 1 about here

Measures

1) Knowledge of Child Development Inventory (KCDI): The KCDI was developed by Larsen and Juhasz (1986) as an evaluation instrument. According to the authors, "The instrument has many applications as a pre-post assessment in high school child development courses, prenatal classes, and

parent-training programs." (p. 45) Items in the instrument are concerned with the emotional, cognitive, physical and social development of children from birth to age three. The 56 items were chosen on the basis of a review of child development textbooks and other pertinent sources. The test uses a multiple choice format; there are four possible responses for each item. The reading level of the KCDI, assessed with the Fry Reading Index, is 8.0.

2) Parental Beliefs Survey (PBS): The parental beliefs survey was developed to assess parents' beliefs regarding effective and appropriate child-rearing practices (Luster, Rhoades & Haas, 1989). The measure is divided into four subscales: 1) beliefs regarding spoiling the child; 2) beliefs regarding floor freedom (unobstructed opportunities to explore the home environment); 3) beliefs regarding discipline and control; and 4) beliefs regarding talking and reading to the child. For each of the subscales, respondents are given a series of statements and are asked to indicate whether they agree or disagree with each statement on a 6 point Likert scale. A sample item from the first subscale is "Parents should limit how much they express the affection they feel towards their baby by limiting the amount of rocking, cuddling and holding they do." Subscale scores are determined by summing the constituent items. The number of items in the subscales ranges from 3 (talk/read) to 7 (spoiling). Slight modifications were made in the wording of a few items to ensure that items were appropriate for respondents who did not have any children.

Earlier studies with this measure have shown that the four subscales are predictive of the quality of care adult mothers and adolescent mothers provide for their infants (Luster & Rhoades, in press; Luster, Rhoades & Haas, 1989). In the earlier studies, mothers who believed that infants can

be spoiled by responsive and affectionate behavior (higher scores on the spoiling subscale) tended to provide less supportive care for their children, as assessed by Caldwell and Bradley's (1979) Home Observation for Measure of the Environment (HOME). Mothers who believed that children should be allowed considerable leeway in exploring the home environment (higher scores on the floor freedom subscale) tended to provide relatively supportive environments for their children. Mothers with high scores on the discipline/control subscale had more authoritarian views on discipline and were found to have less favorable scores on the HOME inventory. Finally, mothers who emphasized the importance of talking and reading to their children (higher scores on the fourth subscale) tended to provide relatively supportive environments, as assessed by the HOME.

3) Perception of Parental Efficacy (POPE) -- Perceived Contingency Subscale: The Perception of Parental Efficacy (POPE) scale was developed to assess parents' beliefs about how much they can influence the development of their children. The perceived contingency subscale of the POPE is comprised of six items. Respondents with higher scores on this measure believe that developmental outcomes in children are contingent upon parenting practices. A sample item is: The way children turn out often has little to do with how their parents raise them.

Earlier research with this measure showed that parents with higher scores on the perceived contingency subscale of the POPE tended to provide more supportive environments, as assessed by the HOME. This relation was found in samples of adolescent and adult mothers (Luster & Rhoades, in press).

Procedures

Each student who participated in the study was given the same set of questionnaires at the beginning of the semester and at the end of the semester by the cooperating teacher. The battery of questionnaires included the three measures described above. In addition, a brief demographic questionnaire was filled out at the time of the pretest. Students were given the questionnaires by the cooperating teacher. Respondents were asked to do as well as possible on the knowledge test and to share their views candidly on the child-rearing beliefs and perception of parental efficacy measures. Completed questionnaires were mailed to the evaluators by the cooperating teachers.

Results

Analysis of Covariance (ANCOVA) was used to test the effect of the program on the students. For each of the outcomes, the post-test scores of the program group were compared to the post-test scores of the control group after controlling for pretest scores.

Table 2 about here

The first of the three outcomes of interest is students' knowledge of child development. Students in the program group outperformed students in the control group on the Knowledge of Child Development Inventory ($F(1,152) = 56.5$, $p < .01$).

The second outcome is beliefs regarding effective and appropriate child-rearing practices. Comparison were made on the four subscales of the Parental Beliefs Survey. Students in the program group were less likely

than control students to believe that infants can be spoiled by parents who are affectionate and who are responsive to their cries ($F(1,147) = 15.2$, $p < .01$). Students in the program were more likely to believe that infants should be given considerable leeway in exploring the home environment ($F(1,146) = 9.7$, $p < .01$), and were less likely to have an authoritarian outlook on disciplining the child ($F(1, 147) = 12.4$, $p < .01$). Finally students in the pre-parenthood course were more likely than control students to emphasize the importance of talking and reading to young children ($F(1, 149) = 17.1$, $p < .01$).

Program students had higher scores than control students on the perceived contingency subscale of the POPE ($F(1,143) = 19.2$, $p < .01$). This indicates that they were more likely to believe that parents exert considerable influence on the developing child. It should be noted however that there was no change on the perceived contingency subscale in the program group from pretest to post-test. The difference in scores at the post-test is due to a decline in scores in the control group. Thus, it would seem inappropriate to conclude that the program affected students' beliefs about how much parents influence the development of their children.

Within-group Analyses

Further analyses were performed to determine if both high achieving and low achieving students showed positive changes as a result of the program. The students in the parenting courses were divided into two groups on the basis of grade point average (GPA) -- those with a B average (3.0 GPA) or better ($n = 43$), and those with less than a B average ($n = 66$). (Some students chose not to disclose their GPA and were not included in the analyses.) For each of the groups, post-test scores were compared to

pretest scores for each of the measures; two-tailed t-tests were used to test for significant differences.

Low GPA students increased their level of child development knowledge, and showed changes on three of the four Parental Beliefs Survey subscales (the talk/read subscale being the exception). There was no change in scores on the perceived contingency subscale.

A similar pattern of results was found in the high GPA group. However, not all changes reached statistical significance in this group. The high GPA students increased their level of knowledge, and showed changes in the floor freedom subscale of the PBS. Changes in the other three PBS subscales were in the predicted direction but were not statistically significant. There was also no change in perceived contingency in the high GPA group.

Discussion

A review of the overall pattern of results indicates that the pre-parenthood education program did succeed in increasing the student's knowledge of child development and did influence the student's beliefs regarding effective and appropriate child-rearing practices. Based on past research linking child-rearing beliefs to parenting practices, these changes can be regarded as positive outcomes (Luster & Rhoades, in press; Luster, Rhoades & Haas, 1989).

Although the overall pattern of findings is encouraging, it is important to note that the amount of change on any one measure from pretest to post-test was modest. One likely reason for the modest effects is that measures had to be selected that could be used in all classrooms even though the material presented by the teachers differed somewhat from classroom to classroom. In implementing the curriculum, teachers were given a

considerable amount of flexibility. For example, although all teachers taught a unit on cognitive development, they were given a number of options for classroom presentations and student activities and could choose the options that they thought would provide the best learning opportunities for their particular students. Measures directly linked to what a given teacher emphasized would in all likelihood have produced larger effects.

In considering the limitations of this study, it is important to note that students self-select themselves into parenting/child development courses, and therefore are likely to differ from other students in some ways. For example, in this study the students in the parenting course were more knowledgeable about child development at the time of the pretest than students in the control group. Characteristics of the students may influence how effective the curriculum is, and one can only speculate about how effective the courses would be if all high school students participated in parenting classes. A second limitation is that none of the outcomes are behavioral measures. We cannot be sure that knowing more about child development will lead to better parenting. However, several parent education programs have had positive effects on the behavior of parents and no parent education program, that we are aware of, has resulted in poorer performance by program participants (Clarke-Stewart, 1983).

It should also be mentioned that the program may have had important effects on the students that were not assessed in this evaluation. In addition to receiving information about child development and caring for children, the students were given considerable information on health related matters such as the importance of early prenatal care and immunization schedules for children. An attempt was also made to impress upon the

students the realities of parenting so that the students will give some thought to the timing of parenthood. The effects of the program on these other areas will be assessed in the next round of the evaluation process.

In conclusion, the results of this study suggest that pre-parenthood education is one service that shows considerable promise as a way of helping adolescents prepare for the parenting role. However, given what we know about intervention programs generally, we would hope that pre-parenthood education would be viewed as part of a series of services for parents and parents-to-be rather than a one time "inoculation" against poor parenting practices. It seems highly unlikely that a one semester course in high school can provide all the information and support that young people need in order to provide optimal care for the next generation of children, but it seems to provide a push in the right direction.

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Table 1

Demographic Characteristics of the Program and Control Group Students

	Program Group (N = 130)	Control Group (N = 26)
Mother's education	12.4	13.0
	(1.9)	(1.8)
Father's education	12.6	12.6
	(1.9)	(3.2)
Age	16.4	16.9*
	(1.0)	(1.0)
% female	87	66
% white	66	72
% with children	8	0

* $p < .05$

Note: Standard deviations are in parentheses below the mean scores.

Table 2

A Comparison of Program Students and Control Students on Post-test Measures.

	Program Group (N = 130)	Control Group (N = 26)
Knowledge of Child Development	40.0 (7.3)	25.4 (10.9)
Parental Beliefs Survey		
1) spoiling	22.0 (6.3)	27.4 (4.8)
2) floor freedom	22.5 (4.7)	19.0 (2.5)
3) discipline/ control	13.4 (3.3)	15.7 (3.1)
4) talk/read	15.0 (3.3)	11.2 (3.5)
Perception of Parental Efficacy		
perceived contingency subscale	27.5 (5.3)	21.4 (5.8)

Note: Standard deviations are in parentheses below the mean scores. Groups were compared using ANCOVA with pretest scores as the covariate. There was a significant difference between the program group and control group on all 6 measures reported in this table.